REMARKS

In paragraph 1 of the Office Action it is indicated that Applicant's RCE has been filed and Applicant's Amendment filed on February 12, 2004 has been entered; claims 1-10 and 19-24 are pending.

In paragraph 2 of the Office Action claims 1, 2, 6, 7 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohtsuka et al (US 5,774,308), stating:

> "With regard to claims 1, 6 and 19, Ohtsuka et al shows a magnetic head in Fig. 7 including: a substrate 21; a read head 22 (Column 7, line 47) being fabricated upon the substrate; a P1 pole 24 (Column 7, line 37) being fabricated upon the read head; a write gap layer 27 being fabricated upon the P1 pole; a P2 pole tip 26 being fabricated upon portions of the write gap layer, wherein the P2 pole tip includes a base surface 26c that is disposed upon the write gap layer 27 and a side wail surface 26b that is disposed generally perpendicularly to the base surface, and wherein the base surface and the side wail surface are comprised of an integrally formed of P2 pole tip seed layer material FeN.
>
> With regard to claims 1 and 6, Ohtsuka et al further shows that the P2 pole tip includes a first portion being comprised of a seed layer material 26C (Fig. 7) and a second portion 26a being comprised of electroplated material, and wherein the P2 pole tip has a thickness dimension t, and a base having a width dimension @, and wherein the seed layer 26C is comprised of an integrally formed layer of material that forms the base 26C and a sidewall 26b of the P2 pole tip that extends through the thickness t of the p2 pole tip.
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> With regard to claims 2 and 7, Ohtsuka et al further shows the first portion of the P2 pole tip that is comprised of the seed layer material 14 forms a sidewall of the P2 pole tip.
>
> With regard to claim 20, Ohtsuka et al further shows that the base surface defines a width W of the P2 pole tip and the sidewall defines a thickness t of the P2 pole tip.
>
> With regard to claim 21, Ohtsuka further shows that the P2 pole tip further includes an electroplated material portion 26a, and wherein the electroplated (Column 6, lines 24-26) material portion is formed in part upon the sidewall surface seed layer material."

Responsive hereto Applicant has amended independent claims 1, 6 and 19 to recite structural limitations that are not taught by Ohtsuka '308. Specifically, Applicant has amended claims 1, 6 and 19 to positively recite the structural limitation that Applicant's P2 pole tip includes a first sidewall and a second sidewall, where the first sidewall is comprised of the seed layer material and the second sidewall is comprised of the electroplated material, such as is best seen in Fig. 11.

Ohtsuka '308, with particular reference to Fig. 7 and Figs. 8A-E, teaches a pole tip that includes electroplated material 26A that is formed upon a base seed layer 26B, and where further seed layer material 26C is redeposited upon the electroplated material 26A. As is seen in Fig. 7, both of the sidewalls of this pole tip are comprised of seed layer material 26C.

Therefore, a significant structural difference, as set forth in Applicant's amended independent claims 1, 6 and 19, is that Applicant's pole tip includes only one sidewall that is comprised of seed layer material, where the second sidewall is comprised of electroplated material. Ohtsuka '308 therefore does not teach Applicant's P2 pole tip as recited in the independent claims 1, 6 and 19.

Applicant therefore respectfully submits that amended independent claims 1, 6 and 19 recite limitations that are not anticipated by the teachings of Ohtsuka '308, and that this ground of rejection of claim 19 has been satisfied.

With regard to dependent claims 2, 7, 20 and 21, Applicant urges that these claims are allowable in that they depend from an allowable base claim.

In paragraph 3 of the Office Action claims 3-5, 8-10 and 22 -24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuka et al in view of Honjo et al (US 6,466,416), stating:

> "With regard to claims 22 and 23, Ohtsuka et al further shows the seed layer material is formed with a thickness of 0.1 micron (1000 A; column 7, lines 56-58) and the electroplated material having thickness of 3 microns (30000 A; column 7, lines 59- 65); but does not show the seed layer material thickness is approximately 50 A to 500 A (or 250 A) and the electroplated material thickness is approximately 100 A to 5000 A (or 1500 A).
>
> However, Honjo et al shows a magnetic head, wherein the seed layer material 14 is formed with a thickness of 100 A (column 12, lines 3 1-32), which is approximately 50 A to approximately 500 A, and the electroplated material 11 is formed with a thickness of 5000 A (Column 12, lines 43-44).
>
> It would have been obvious at the time the invention was made to one of ordinary skill in the art to include the following rage: the seed layer material thickness is approximately 50 A to 500A (or 250 A) and the electroplated material thickness is approximately 100 A to 5000 A (or 1500 A). The rationale is as follows: Applicant does not specify a particular reason for use this particular thickness. One of ordinary skill in the art would have been determining the suitable thickness through experimentations and optimization. Ohtsuka et al's patent was filed in 1996, which is much earlier than the time this invention was made. Thinning the thickness to upgrade the data rate is a well-known trend in

the art. Honjo has taught of using thinner thickness of the layers and teaches that the seed layer material thickness should falls in the range of more then 50 A and less 1000 A for balancing the good layer quality and the writing capability (Column 12, lines 33-42). One of ordinary skill in the art would have been motivated by Honjo et al's teaching and follow the trend in the art to find a suitable thickness through experimentation and optimization, which would include the following range: the seed layer material is formed with a thickness approximately 50 A to 500A (or 250 A) and the electroplated material thickness is approximately 100 A to 5000 A (or 1500 A).

With regard to claim 24, Ohtsuka et al shows the seed layer material is made of FeN film with high saturation magnetic flux density 012 T (Column 5, lines 49-58) and the electroplated material 26c is made of NiFe (Column 7, lines 56); but falls to show that the seed layer material is comprised of NiFe.

Honjo et al shows that CoNiFe, which is comprised of NiFe, has high saturation magnetic flux density of 1.9-2.2 T (Column 5, lines 18-19).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to include CoNiFe as a candidate for the seed layer. The rationale is as follows: in Ohtsuka et al, the seed layer needs to have high saturation magnetic flux density of 2T, CoNiFe has saturation magnetic flux density of 1.9—2.2 T. One of ordinary skill in the art would have been motivated to include CoFeNi as a material for the seed layer."

With regard to dependant claims 3-5, 8-10 and 22-24, Applicant urges that these dependent claims are allowable in that they depend from an allowable base claim, either directly or indirectly.

Having responded to all of the paragraphs of the Office Action, and having amended the claims accordingly, Applicant respectfully submits that the Application is now in condition for allowance. Applicant therefore respectfully requests that a Notice of Allowance be forthcoming at the Examiner's earliest opportunity. Should the Examiner have any questions or comments

with regard to this amendment, a telephonic conference at the number set forth below is respectfully requested.

Respectfully submitted,

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August 30, 2004
(date)

Patricia Beilmann
(Signature of Patricia Beilmann)